

POPULIARIAUSI
TAUTOS
ŽODŽIAI

1. LIETUVA
2. MEILĖ
3. ŽALGIRIS
4. MAMA
5. MES
6. TĖVYNĖ
7. LAISVĖ
8. ŠEIMA
9. HREPŠINIS
10. TAIKA

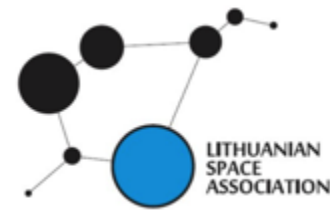
KURIE 3 ŽODŽIAI IŠ ŠIŲ
TAPS PIRMAISIAIS, LIETUVIŠKAI
NUSKAMBĖJUSIAIS IŠ KOSMOSO?

UNISEC Lithuania - Local Chapter Candidate

Vidmantas Tomkus, Director
Lithuanian Space Association

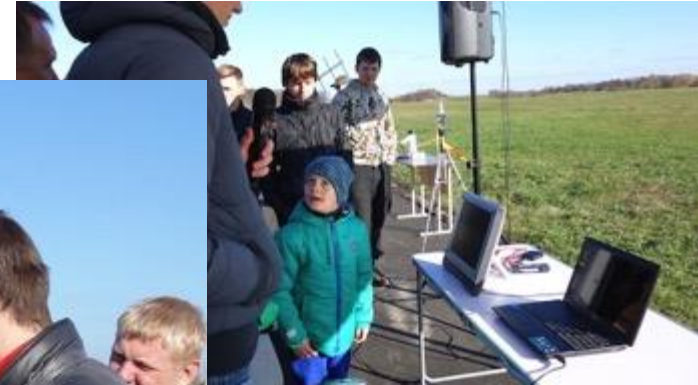
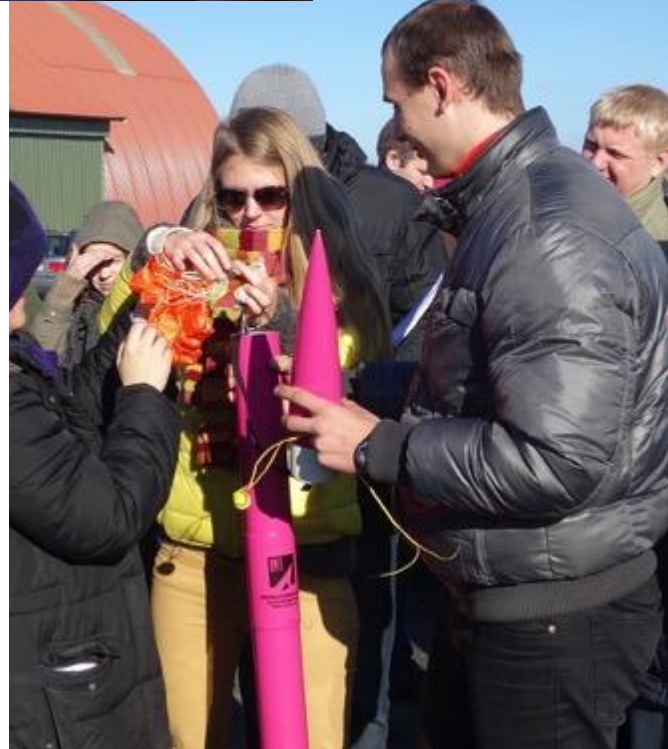
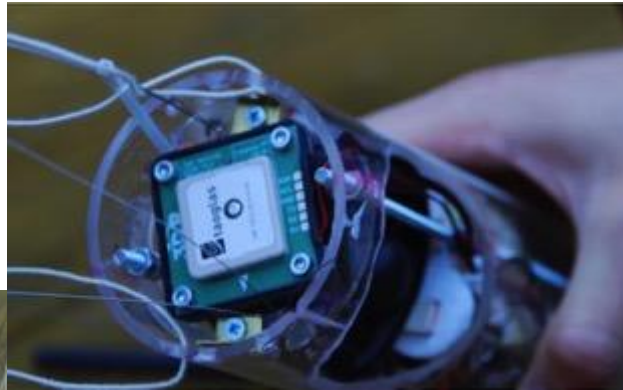
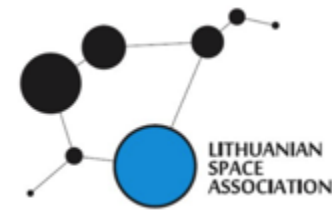
18 th of November 2014, Kitakyushu

Lithuanian Cansat competition 2013

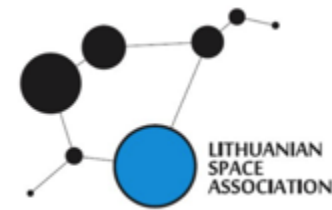


- After graduating of CLTP training by Lithuanian representatives in Japan in 2012, two Cansat and UAV competitions were organized in 2013-2014

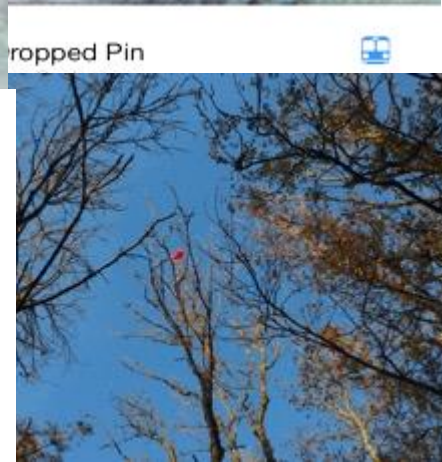
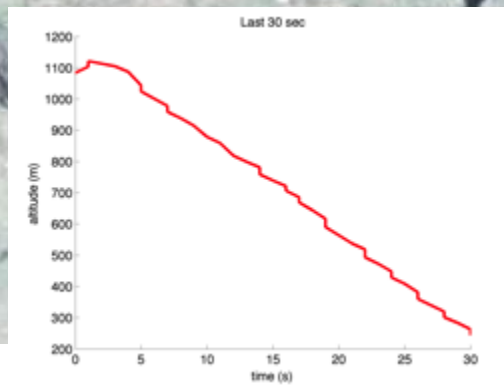
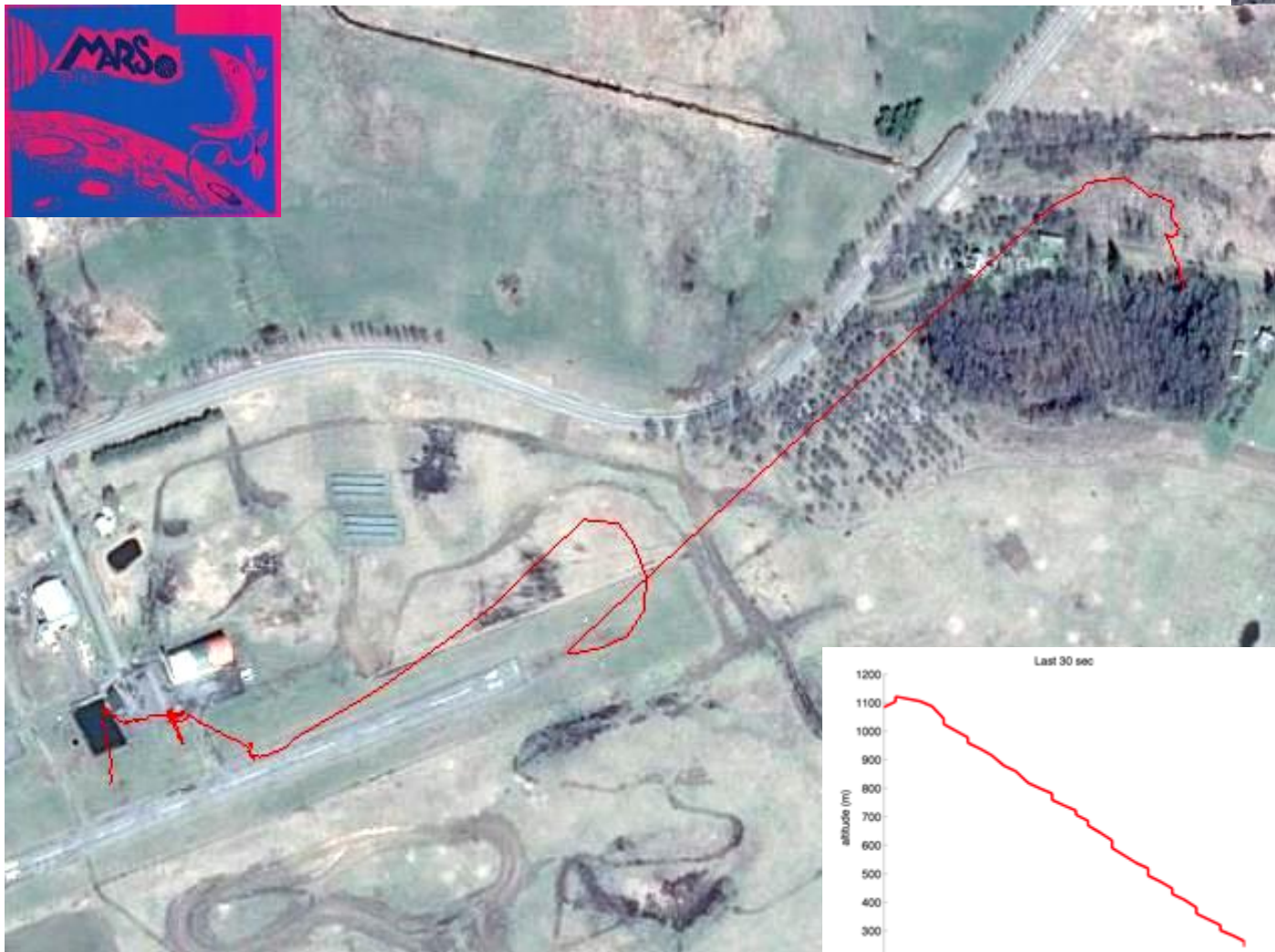
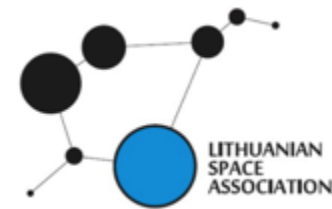
Lithuanian Cansat competition 2014



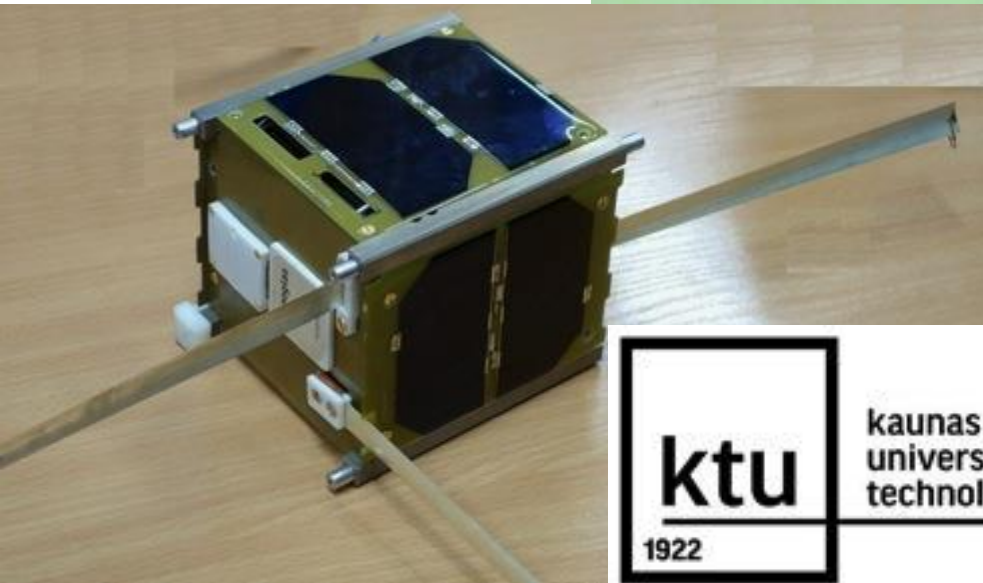
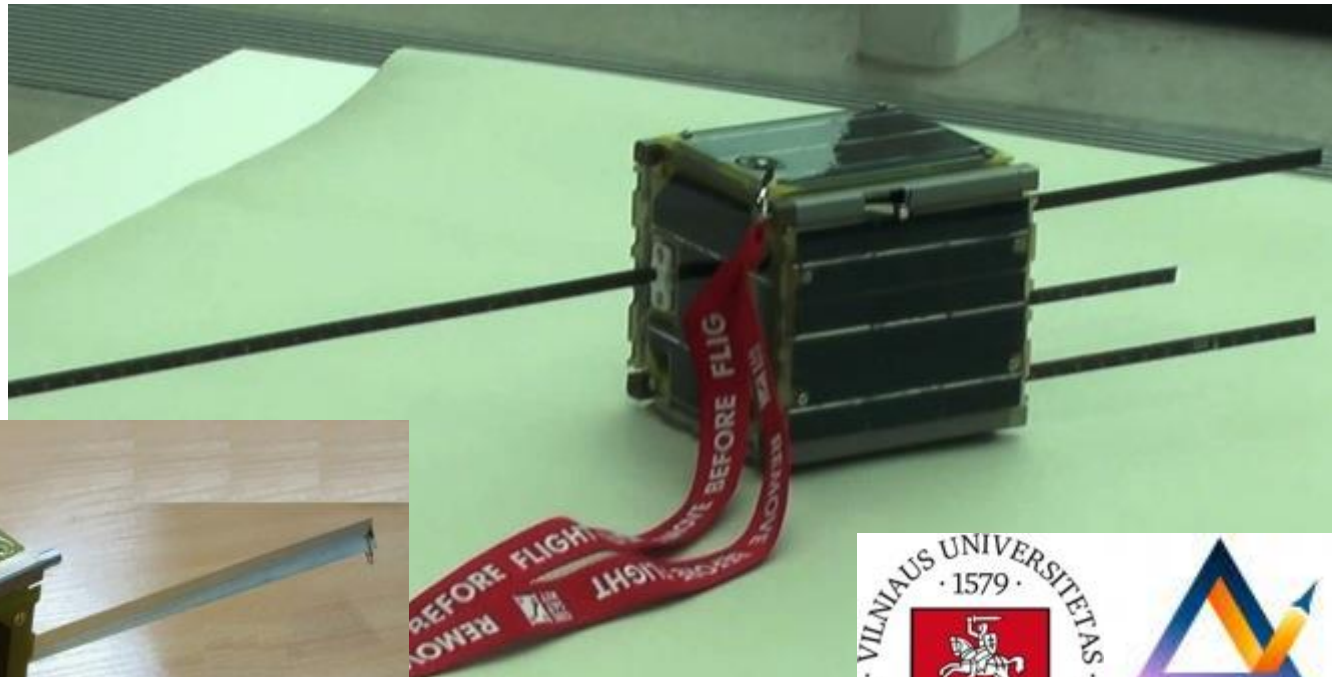
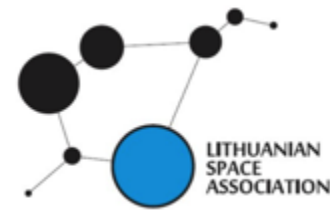
Lithuanian UAV competition 2013



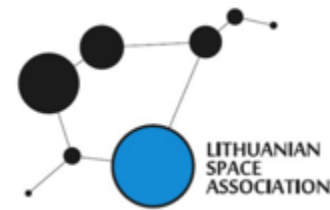
Post Flight Review of Cansat 2014



Two first Lithuanian Cubesats Litsat1 and LituanicaSat 1 - 2014



Main Components



Litsat-1



- **V/U** Linear transponder
- Space qualified GPS receiver
- GaAs and LT Silicon Solar panels
- Solar sensors
- **V/U** Comm board He-100



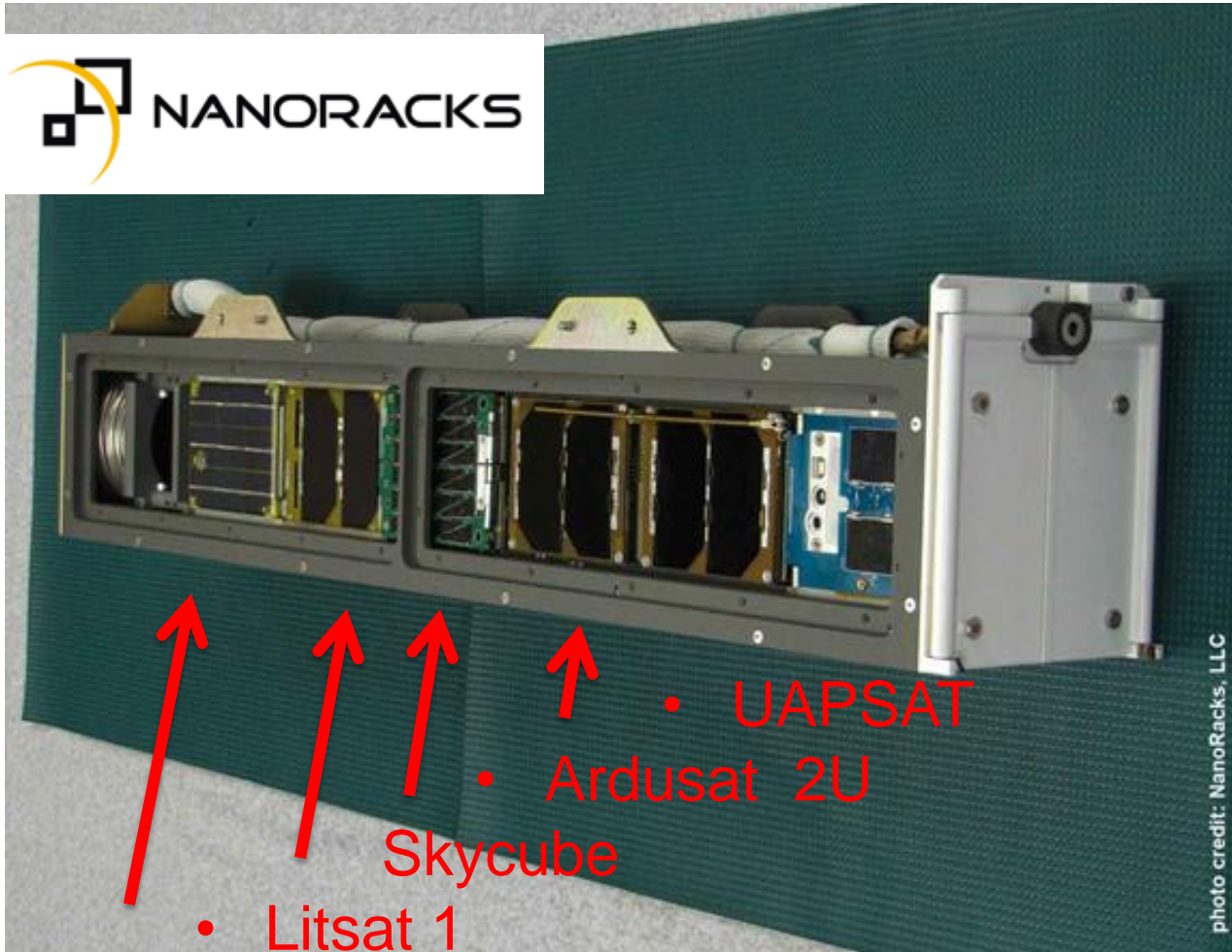
LituanicaSat-1

- **U/V** FM repeater
- Arduino board with Camera
- Radio beacon
- LT Silicon Solar panels
- **U/V** Comm board He-100

1U CUBESAT Platform (common)

- ARM 7 Cortex M4 On board processor
- 3x Gyro, 3x Accel., 3x Magnetom.
- Gomspace Power Supply
- System board

Launcher Bay of Nanoracks LLC



Start of the Journey



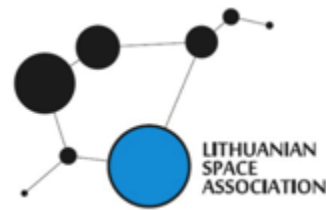
Launch from: NASA Flight Facility
Wallops Island, VA, USA

At Jan 9 2014 8:30 pm Lithuanian time



Docking on the Space Station

12-th of Jan 2014



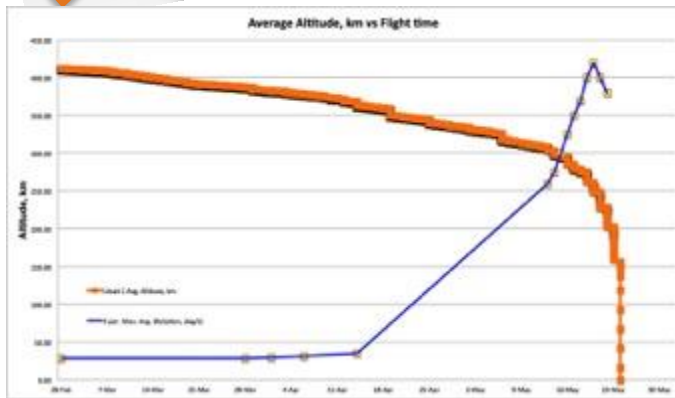
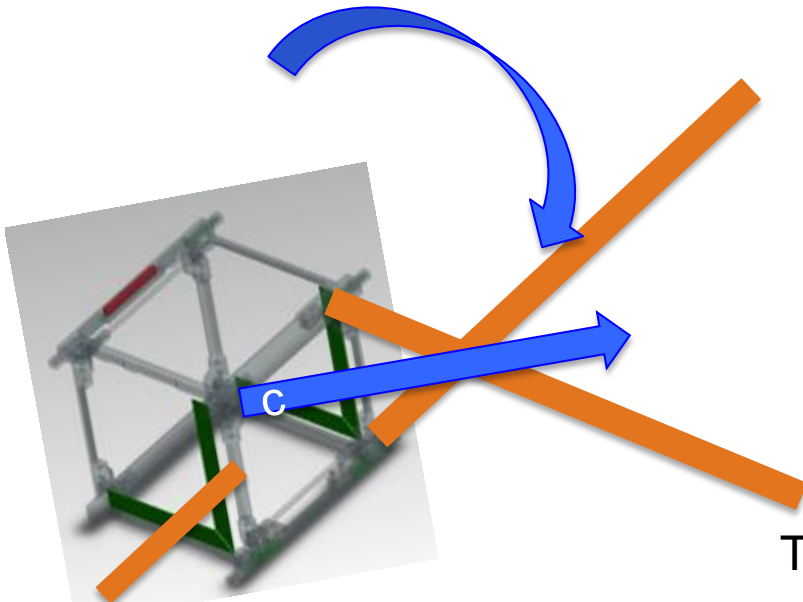
Launch from the ISS



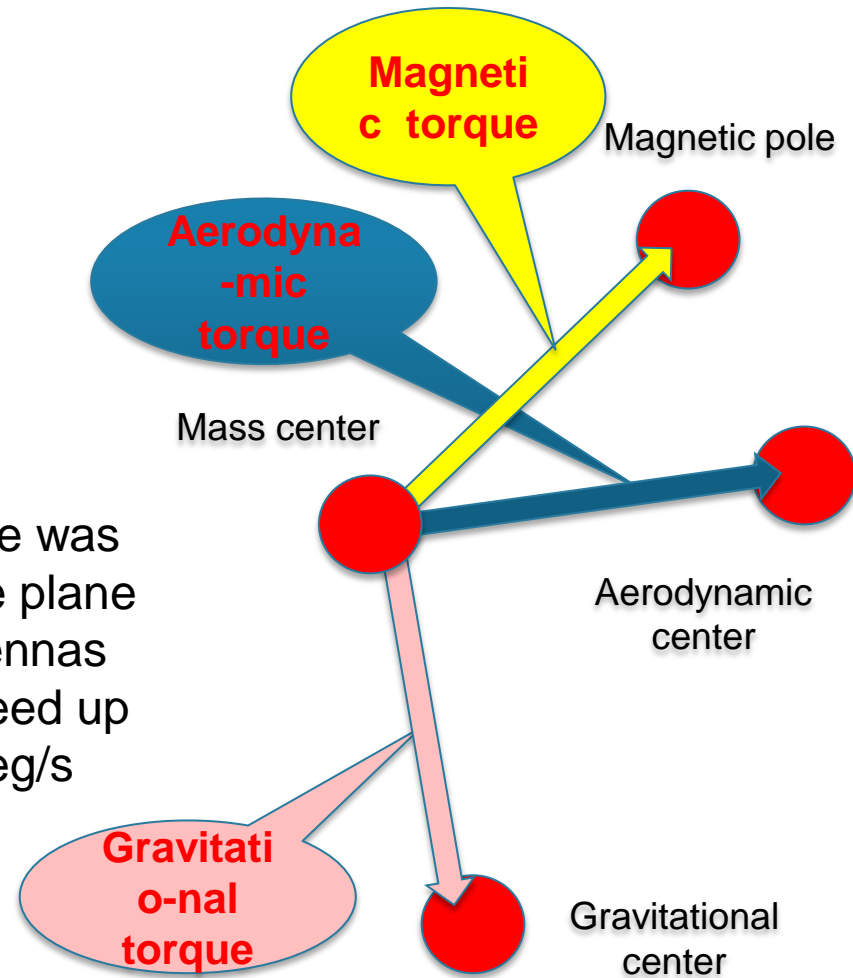
- Feb 28, 2014 satellites were launched from Japanese Kibo module in to the orbit by astronaut Koichi Wakata in co-operation with Tsukuba Control Center



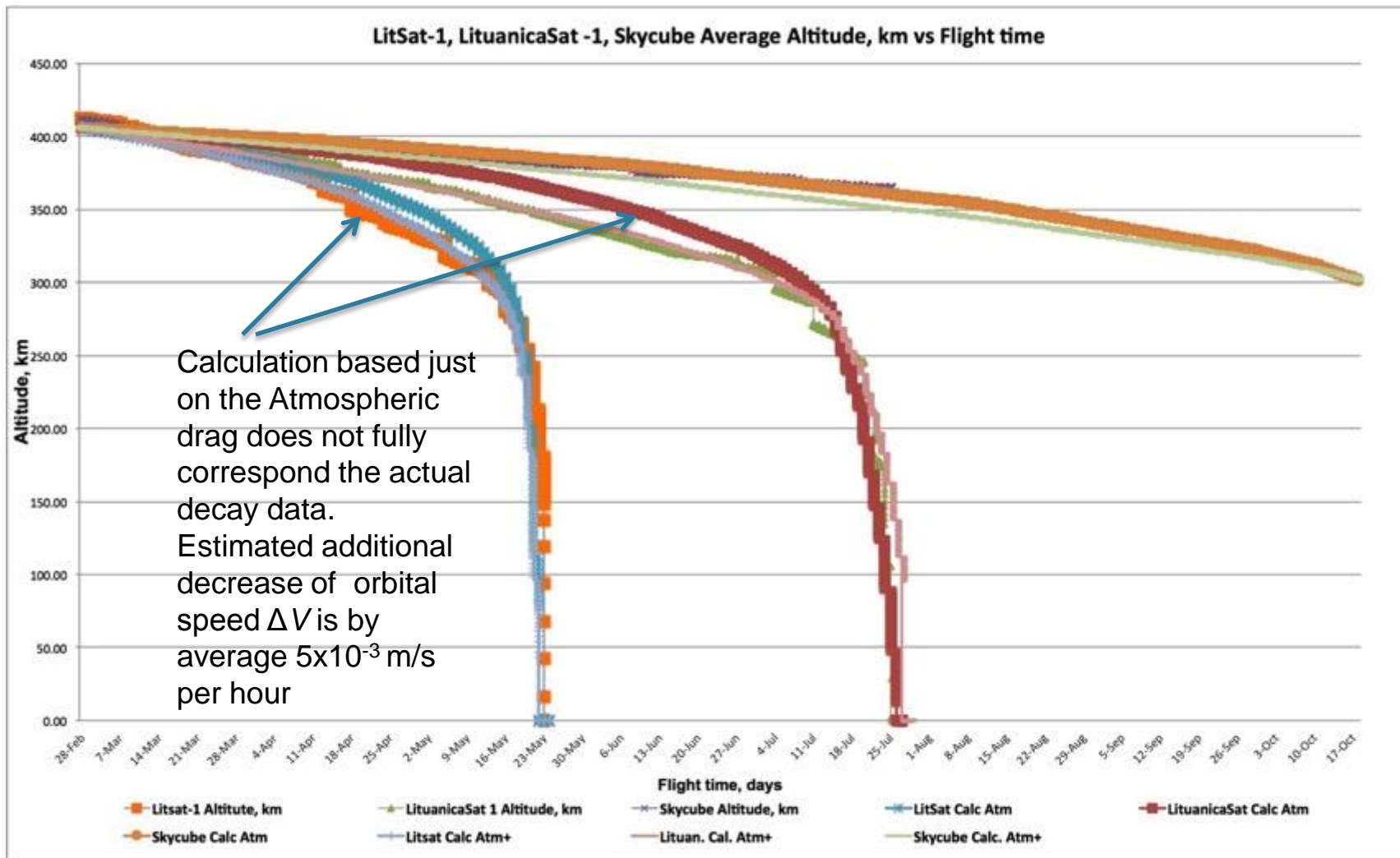
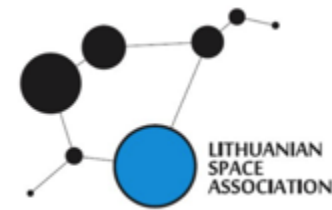
Estimation of Satellite Torques of Litsat 1



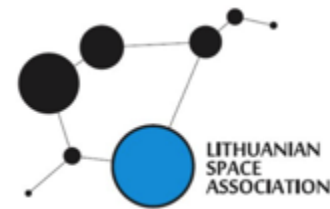
The satellite was rolling in the plane of 2m antennas with the speed up to 420 deg/s



Orbital Decay Simulation of Litsat 1, Lituanicasat 1 and Skycube



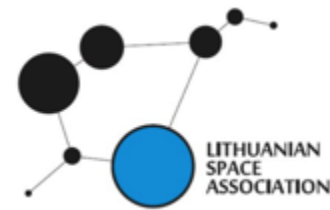
LituanicaSAT-1 pictures from Space



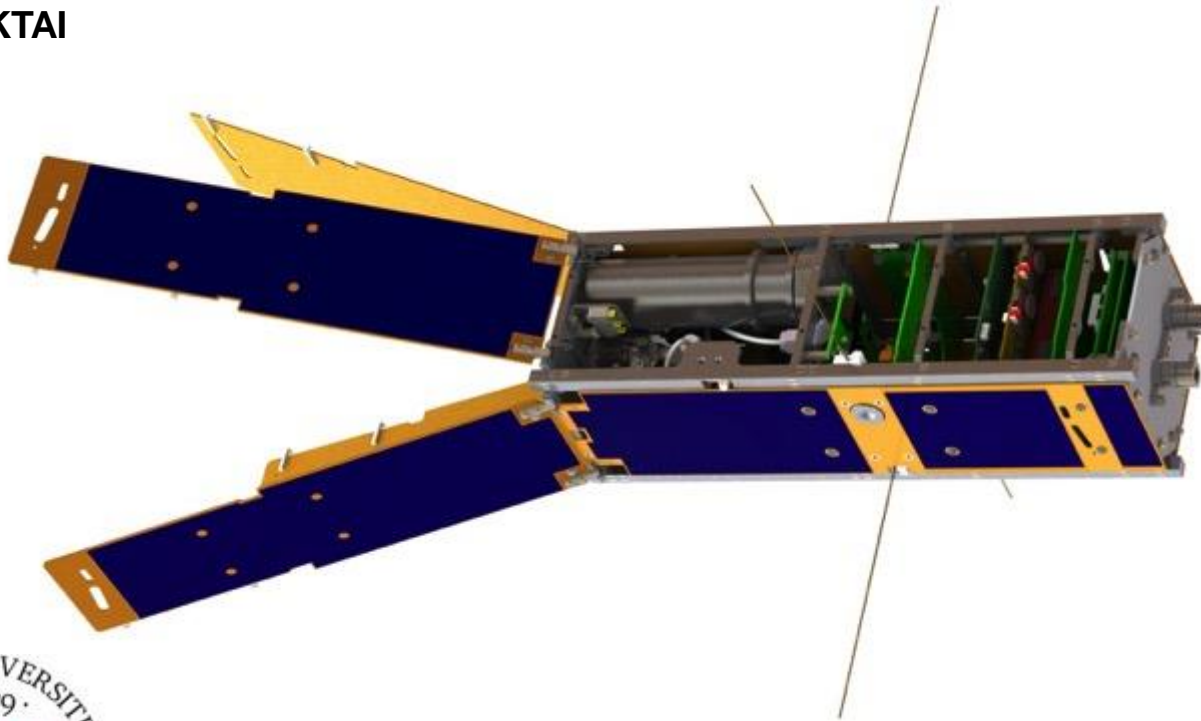


**INOVATYVŪS
INŽINERINIAI
PROJEKTAI**

LituanicaSat 2 – 3U Cubesat with propulsion system



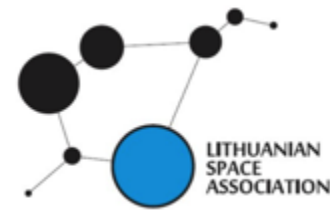
Planned launch of QB50 project in 2016



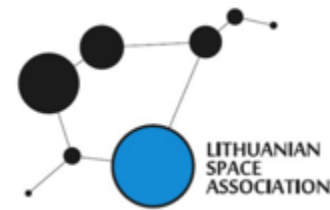
Deployable Solar Panels / Propulsion System / RF Splitter / 3-in-1 Electronics Board / EPS / Mother Board / FIPEX



Activities of UNISEC Lithuania



- Three Lithuanian Universities – Vilnius University, Kaunas University of Technology and Vilnius Gediminas Technical University participate in Small satellite projects
- After graduating of CLTP training by representatives of Vilnius Gediminas Technical University in Japan in 2012, two Cansat and UAV competitions were organized in 2013-2014
- Two first Lithuanian Cubesats Lituanicasat 1 and Litsat 1 were launched from ISS Kibo module in 2014 and successfully reached the planned mission results
- Participation in educational activities of European Space Agency and QB50 mission are planned



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THANK YOU FOR ATTENTION !